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Photo Series for Quantifying Forest Residues in:

Loblolly Pine
Eastern White Pine
Pitch Pine
Virginia Pine

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Abstract

A series of 27 photographs displays different forest residue loading levels for areas of like timber type, cutting practice, insect, disease, and wildfire mortality.

Information with each photo includes measured weights, volumes and other residue data, information about the timber stand and harvest, brush information, and Northern Forest Fire Laboratory (NFFL) fire behavior fuel model number.

These photo series provide a fast and easy-to-use means for quantifying and describing existing and expected residues.

Acknowledgment

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List of Tree Species Observed During Field Inventory (scientific names from Little 1979)

American chestnut	*Castanea dentata* (Marsh.) Borkh.
Black oak	*Quercus velutina* Lam.
Blackjack oak	*Quercus marilandica* Muenchh.
Chestnut oak	*Quercus prinus* L.
Northern red oak	*Quercus rubra* L.
Scarlet oak	*Quercus coccinea* Muenchh.
Bear oak	*Quercus ilicifolia* Wangenh.
Southern red oak	*Quercus falcata* Michx.
Swamp white oak	*Quercus bicolor* Willd.
White oak	*Quercus alba* L.
Willow oak	*Quercus phellos* L.
Eastern white pine	*Pinus strobus* L.
Loblolly pine	*Pinus taeda* L.
Pitch pine	*Pinus rigida* Mill.
Red pine	*Pinus resinosa* Ait.
Shortleaf pine	*Pinus echinata* Mill.
Virginia pine	*Pinus virginiana* Mill.
American holly	*Ilex opaca* Ait.
Black cherry	*Prunus serotina* Ehrh.
Blackgum	*Nyssa sylvatica* Marsh.
Flowering dogwood	*Cornus florida* L.
Red maple	*Acer rubrum* L.
Sassafras	*Sassafras albidum* (Nutt.) Nees
Sweetgum	*Liquidambar styraciflua* L.

Other Plant Species Observed During Field Inventory (scientific names from Petrides 1972, Cobb 1963, or Fernald 1950)

American strawberry - bush	*Euonymus americanus* L.
Bayberry spp.	*Myrica spp.*
Blackberry spp.	*Rubus spp.*
Blueberry spp.	*Vaccinium spp.*
Bracken fern	*Pteridium aquilinium* (L.) Kuhn.
Devils walking stick	*Aralia spinosa* L.
Greenbriar (catbriar)	*Smilax spp.*
Groundpine	*Lycopodium complanatum*
Highbush blueberry	*Vaccinium corymbosum* L.
Huckleberry spp.	*Gaylussacia spp.*
Japanese honeysuckle	*Lonicera japonica* Thunb.
Mountain-laurel	*Kalmia latifolia* L.
Partridgeberry	*Mitchella repens* L.
Pipsissewa	*Chimaphila spp.*
Poison ivy	*Toxicodendron* spp.
Pokeweed	*Phytolacca americana* L.
Sheep laurel	*Kalmia angustifolia* L.
Spicebush	*Lindera benzoin* (L.) Blume
Sweetbay	*Magnolia virginiana* L.
Sweetfern	*Comptonia peregrina* (L.) Coult.
Sweet pepperbush	*Clethra alnifolia* L.
Teaberry	*Gaultheria procumbens* L.
Viburnum	*Virburnum spp.*
Virginia creeper	*Parthenocissus quinquefolia* (L.) Planch.
Wildrose	*Rosa spp.*

Contents

What is This Photo Series?

This array of photos shows different residue loading levels found in natural timber stands of like types or generated from insect, disease, and fire mortality or from cutting practices. Each photo is supplemented with information that includes:

- Measured quantities by size classes, average depth, and residue data.
- Harvesting or mortality information.
- Fuel model
- Brush information

Thus, the series provides a basis for quantifying and describing existing and expected residue loadings on other areas and serves as a communication link between users.

Purpose of Photo Series

Forest residue is the woody debris present on the forest floor. It is made up of stems, branches, twigs, and bark. This residue is caused by natural events, mortality from insects or disease infestation, wildfire, or from previous forestry operations. Together, the accumulated debris and slash can create a hazardous fuel situation that must be dealt with by the land manager. The most important reason for evaluating the forest residue is to determine whether the debris and slash presents an acceptable or unacceptable fire hazard to the selected crop trees or to the surrounding forest area. If the hazard is judged unacceptable, the land manager can make some decisions concerning fire prevention and suppression or the amount and type of treatment needed to abate the hazard.

The photo series can also be of value to the land manager from the standpoint of forest product utilization. Much of the residues remaining in the forest following harvesting operations can be utilized for fuelwood or other products. Since some residues are beneficial for such purposes as nutrient cycling, soil protection, wildlife cover, and microclimate effect, the land manager can also decide how much residue should be removed to reduce the residue to a level considered desirable. To reduce residues to this level requires estimates of existing fuel quantities and quantities expected to be generated by management activities.

Inventory techniques, such as the planar intersect method (Brown 1971), are very useful when a high degree of accuracy is needed. However, these techniques are time consuming and costly to apply extensively. Photo series can be used to make fast, easy, and inexpensive estimates of residue that are adequate for most management needs.

How Can This Series Be Used?

Inventory of Down Residue

Fuel loadings in various residue size classes and average residue depth are characteristics that are visible in the photographs: hence, users can estimate any of these characteristics on an area being inventoried by comparing them with the photos as follows:

1. Observe each characteristic of the residue on the ground (e.g., 1.0–3.0-inch loading).

2. Select a photo which nearly matches, or photos that bracket, the observed characteristic.

3. Obtain the quantitative value for the characteristic being estimated from the data sheet accompanying the selected photo (or interpolate a value between photos).

These steps are repeated for each characteristic desired. If the general area being inventoried has zones of obvious differences in residue loading, the user should consider making separate determinations for each zone which can then be weighted and aggregated for the entire area.

Residue characteristics not distinguishable by use of the photographs are duff and litter depth and the percentage each residue size class occupies of the total. If values for these characteristics are desired in an inventory, they must be derived from independent sampling or observations.

Inventory information can be used by land managers to:

- evaluate the impact residues have on various aspects of forest management,
- identify areas of unacceptable residue loading,
- identify priority areas for treatment,
- estimate amount of material which can be utilized,
- estimate fire behavior characteristics.

Determination of Desired Residue Level

Land management objectives can be more nearly achieved if a team of appropriate specialists can participate in specifying what residues should remain on site after cutting. Individuals helping with these determinations can study the photo series to recognize the appearance of various quantities and distributions of residue. With this knowledge, they can describe in quantitative terms the residue they believe should be retained to meet environmental concerns and goals of their particular specialty. The group can then use the photo series as a communicative tool to resolve differences in arriving at a desired level.

After treatment, the degree to which objectives were achieved can be judged by comparing observed post-treatment loading with the desired level description.

Prediction of Residues from Planned Cutting or from Insect and Disease Infestation or Wildfire Mortality

Photo series are a rudimentary aid for predicting amounts of residue from cutting, insect and disease infestation, and wildfire. Many factors, such as condition of timber stand, topography, logging method, utilization intensity or intensity of insect, disease, or wildfire mortality, may affect the volume of resulting residues; so users should bear in mind that these series depict only a few of the possible combinations.

To predict residue volumes from planned cutting, the user compares timber volume and size information from cutting plans with this kind of information in the photo series. Selecting a photo series level or levels with similar stand characteristics, the user refers to data sheet loading, considers factors which differ from the photo series situations, and quantifies the expected loading.

Predicted loadings can be used to support changes in cutting and removal practices.

NFFL Fire Behavior Fuel Models

For each level presented, one of the 13 Northern Forest Fire Laboratory fire behavior fuel models has been indicated. There are 10 different fire behavior fuel models represented by this series; those of the shrub, timber, and logging slash groups. The type and volume of the fuel residue, as well as the litter present on the site, possess all the fuel descriptors required by the fire behavior model. It should be remembered that the fire behavior fuel model is used in predicting fire behavior in surface wildfires.

The land manager can use the photo series by comparing the known fuel model represented in the pictures to similar areas on the ground for which the fire behavior fuel model is not known. This can be a very useful tool to the land manager unfamiliar with fire behavior fuel models or to anyone who must make a quick determination of the fire behavior fuel model on a given site.

Use of this photo series can also assist the land manager in fuel mapping and determining the expected fire behavior on a given site.

Fire Behavior Fuel Model Key

The following is a key to the 10 fire behavior fuel models represented in this series:

I. Shrub Group

  A. Vegetation type is southern rough or low pocosin . . . . Fuel Model 7

  B. Live fuels absent or sparse; brush is about 2.5 feet deep . . . . Fuel Model 6

  C. Live fuel moisture can have a significant damping effect on the fire behavior.

    1. Brush is about 2 feet deep with light loading of dead material . . . . Fuel Model 5

    2. Brush is close to head high with a heavy loading of dead fuels. Produces a very intense fire with high spread rates . . . . Fuel Model 4

    3. Vegetation type is high pocosin . . . . Fuel Model 4

II. Timber Group

A. Surface fuels are mostly foliage litter. Large fuels are scattered and lie on the needles, i.e., are not supported above it by branches. Green fuels are scattered enough to be insignificant to fire spread.

1. Dead foliage litter is short needle, 2-inch or less coniferous or small hardwood leaves tightly compacted .... Fuel Model 8

2. Dead foliage litter is long needle pine or hardwood leaves loosely compacted .... Fuel Model 9

B. There is a significant amount of larger fuels, many with attached branches and twigs, or the larger fuels have rotted enough that they are splintered and broken. The larger fuels are fairly well distributed over the area. Some green fuels may be present. The overall depth of the fuel is probably below the knees .... Fuel Model 10

III. Logging Slash Group

A. Slash is not continuous; other surface fuels, needle litter, or a small amount of grass must be present to help carry the fire. Green fuels are absent or do not play a significant role in fire behavior. Overall slash depth is about 1 foot .... Fuel Model 11

B. Slash generally covers the ground, though there may be some bare spots or areas of light coverage. Average slash depth is about 2 feet. Slash is not excessively compacted. Approximately half of the needles may still be on the branches. Green fuels are absent or are not expected to affect fire behavior. . . . . Fuel Model 12

C. Same as B except needles that are still attached are red. Slash is continuous or nearly so. Slash is not excessively compacted. Approximately half of the needles are still on the branches. Green fuels are absent or are not expected to affect fire behavior . . . . Fuel Model 13

Fuel Model Descriptions and Expected Fire Behavior (from Anderson 1982)

Shrub Group

Fire Behavior Fuel Model 4. Fire intensity and fast spreading fires involve the foliage and live and dead fine woody material in the crowns of a nearly continuous secondary overstory. Stands of mature shrub, 6 or more feet tall, such as California mixed chaparral, the high pocosins along the east coast, the pine barrens of New Jersey or the closed jack pine stands of the north-central states are typical candidates. Besides flammable foliage, there is dead woody material in the stand that significantly contributes to the fire intensity. Height of stands qualifying for this model depends on local conditions. There may also be a deep litter layer that confounds suppression efforts.

Fire Behavior Fuel Model 5. Fire is generally carried in the surface fuels that are made up of litter cast by the shrubs and the grasses or forbs in the understory. The fires are generally not very intense because surface fuel loads are light, the shrubs are young with little dead material, and the foliage contains little volatile material. Shrubs are generally not tall but have nearly total coverage of the area. Young, green stands such as laurel, vine maple, alder, or ever chaparral, manzanita, or chamise with no deadwood would qualify.

Fire Behavior Fuel Model 6. Fires carry through the shrub layer where the foliage is more flammable than in fuel model 5 but require moderate winds, greater than 8 mph at midflame height. Fire will drop to the ground at low wind speeds or openings in the stand. The shrubs are older, but not as tall as shrub types of fuel Model 4, nor do they contain as much fuel as fuel Model 4. A broad range of shrub conditions are covered by this model. Hardwood slash that has cured can be considered.

Fire Behavior Fuel Model 7. Fires burn through the surface and shrub strata with equal ease and can occur at higher dead fuel moisture contents because of the flammable nature of live foliage and other live material. Stands of shrubs are generally between 2 and 6 feet high. Palmetto-gallberry understory, pine overstory sites are typical and low pocosins may be represented.

Timber Group

Fire Behavior Fuel Model 8. Slow burning ground fires with low flame heights are usual, although the fire may encounter an occasional "jackpot" or heavy fuel concentration that can flare up. Only under severe weather conditions involving high temperatures, low humidities, and high winds do the fuels pose fire hazards. Closed canopy stands of short needle conifers or hardwoods that have leafed out support fires in the compact litter layer. This layer is mainly needles, leaves, and some twigs since little undergrowth is present in the stand.

Fire Behavior Fuel Model 9. Fires run through the surface litter faster than in Fire Behavior Fuel Model 8 and have higher flame height. Both long-needle conifer and hardwoods are representative, but high winds will actually cause higher rates of spread than predicted. This is due to spotting caused by rolling or blowing leaves. Concentrations of dead, down, woody material will contribute to possible torching out of trees, spotting, and crowning activity.

Fire Behavior Fuel Model 10. The fires burn in the surface and ground fuels with greater fire intensity than the other timber, litter models. Dead, down fuels include greater quantities of 3-inch or larger limb wood resulting from overmaturity or natural events that create a large load of dead material on the forest floor. Crowning out, spotting, and torching of individual trees is more frequent in this fuel situation, leading to potential fire control difficulties. Any forest type may be considered if heavy down materials are present; examples are insect or disease-ridden stands, wind-thrown stands, overmature situations with deadfall, and aged light thinning or partial-cut slash.

Logging Slash Group

Fire Behavior Fuel Model 11. Fires are fairly active in the slash and herbaceous material intermixed with the slash. The spacing of the rather light fuel load, shading from the overstory, or the aging of the fine fuels can contribute to limiting the fire potential. Light partial cuts or thinning operations in mixed conifer stands, hardwood stands, and southern pine harvests are considered. Clearcut operations generally produce more slash than represented here. The less than 3-inch material load is less than 12 tons per acre.

Fire Behavior Fuel Model 12. Rapidly spreading fires with high intensities capable of generating firebrands can occur. When a fire starts, it is generally sustained until a fuelbreak or change in fuels is encountered. The visual impression is dominated by slash and much of it is less than 3 inches in diameter. These fuels total less than 35 tons per acre and give the impression of well distributed fuels. Heavily thinned conifer stands, clearcuts, and medium or heavy partial cuts are represented.

Fire Behavior Fuel Model 13. Fire is generally carried across the area by a continuous layer of slash. Large quantities of greater than 3-inch material are present. Fires spread quickly through the fine fuels and intensity builds up more slowly as the large fuels start burning. Active flaming is sustained for long periods and a wide variety of firebrands can be generated. These contribute to spotting problems as the weather conditions become more severe. Clearcuts and heavy partial cuts in mature and overmature stands are depicted where the slash load is dominated by the greater than 3-inch material.

How Was This Series Developed?

Areas photographed for these series were selected to show typical residue loading variations in the pitch, eastern white, loblolly, and virginia pine types in the Northeast. Photos were taken and data collected as follows:

1. Areas were photographed and the material in the photo area sampled in accordance with "Guidelines For Developing or Supplementing Natural Photo Series" (Maxwell and Ward 1980).

2. The measurement technique was in accordance with "Handbook For Inventorying Downed Woody Material" (Brown 1974).

3. Timber stand, logging, and residue treatment data were obtained from timber sale or project records in field offices.

Reminders to Users

- The marker in these photos is 1 foot square, and the pole is painted in contrasting colors at 1-foot intervals to provide perspective.

- Undisturbed stumps are not included in residue quantities.

- Rotted residue is that which would come apart or splinter when kicked.

How Are Levels In This Series Coded?

The data for each level are presented on the page facing the photo. Facing picture and data pages have the same code for the residue situation shown. The code shows:

a. Order of rank from lightest loading to heaviest loading in the series of photographs.

b. Forest type, e.g., PP = pitch pine, LL = loblolly pine, WP = eastern white pine, VP = Virginia pine.

c. Forest size class, where:
1 = <5-inch dbh
2 = 5.1 to 11-inch dbh
3 = 11.1 to 20-inch dbh
4 = >20-inch dbh

d. History of area, where:
N = Natural stands, no cutting practices—includes those which have insect, disease, or wildfire mortality.
H = Commercially harvested stands, all cutting practices.
P = Precommercial treatment

Example: 1–WP–3–N is the first photo in the series for eastern white pine, the diameter of the standing trees is 11.1 to 20.0 inches, and no cuttings or treatments have been applied in the stand.

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DATA SHEET Residue descriptive code 1-LL-2-N

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	0.9	54.7	14
0.26-1.0	2.7	172.2	46
1.1-3.0	1.3	78.6	21
3 + Sound	0.9	55.9	15
3 + Rotten	0.2	15.1	4
Total	6.0	376.4	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre) ____

Average stems/acre cut ____

Average d.b.h. of stems cut (inches) ____

Stand age (years) ____

Cutting prescription ____

Yarding method ____

Slash treatment ____

Period since cut or treatment (months) ____

OTHER MEASUREMENTS

Average fuel depth (inches) 4.9

Average duff depth (inches) 0.0

Average diameter of 3.1 inch sound (inches) 5.8

Average diameter of 3.1-inch rotten (inches) 4.3

Average d.b.h. of standing trees (inches) 7.9

Basal area / acre 140

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre ____

Stems remaining/acre ____

Basal area/acre before ____

Basal area/acre after ____

Average d.b.h.before (inches) ____

Average d.b.h.after (inches) ____

Thinning method ____

Slash treatment ____

Period since thin (months) ____

BRUSH INFORMATION

Dominant species poison ivy, sweetgum, maple sprouts

Average height (inches) 30

Average crown height (inches) 54

Ground space occupied (percent) 60

FUEL MODEL

Fire Behavior Fuel Model 9

REMARKS

DATA SHEET Residue descriptive code 2-LL-2-H

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	0.5	28.9	6
0.26-1.0	4.3	272.1	55
1.1-3.0	2.5	156.5	32
3 + Sound	0.4	27.0	5
3 + Rotten	0.1	8.2	2
Total	7.8	492.7	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre) 4 Cords

Average stems/acre cut 250

Average d.b.h. of stems cut (inches) 6.0

Stand age (years) 26

Cutting prescription Select

Yarding method Tractor

Slash treatment Burn

Period since cut or treatment (months) 8 years

OTHER MEASUREMENTS

Average fuel depth (inches) 3.4

Average duff depth (inches) 0.4

Average diameter of 3.1 inch sound (inches) 4.0

Average diameter of 3.1-inch rotten (inches) 3.1

Average d.b.h. of standing trees (inches) 8.9

Basal area / acre 130

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre 250

Stems remaining/acre 450

Basal area/acre before 180

Basal area/acre after 130

Average d.b.h.before (inches) 6.0

Average d.b.h.after (inches) 8.9

Thinning method Pruned and Selection cut

Slash treatment Prescribed burn

Period since thin (months) 8 years

BRUSH INFORMATION

Dominant species sweetgum, willow oak, poison ivy

Average height (inches) 30

Average crown height (inches) 54-72

Ground space occupied (percent) 35

FUEL MODEL

Fire Behavior Fuel Model 9

REMARKS

DATA SHEET Residue descriptive code 3-LL-3-N

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	0.6	40.2	8
0.26-1.0	1.7	106.8	19
1.1-3.0	2.0	128.2	23
3 + Sound	4.2	282.7	48
3 + Rotten	0.2	11.9	2
Total	8.8	549.9	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre) ____
Average stems/acre cut ____
Average d.b.h. of stems cut (inches) ____
Stand age (years) ____
Cutting prescription ____
Yarding method ____
Slash treatment ____
Period since cut or treatment (months) ____

OTHER MEASUREMENTS

Average fuel depth (inches) 3.5
Average duff depth (inches) 4.6
Average diameter of 3.1 inch sound (inches) 9.4
Average diameter of 3.1-inch rotten (inches) 3.8
Average d.b.h. of standing trees (inches) 14.9
Basal area / acre 140

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre ____
Stems remaining/acre ____
Basal area/acre before ____
Basal area/acre after ____
Average d.b.h.before (inches) ____
Average d.b.h.after (inches) ____
Thinning method ____
Slash treatment ____
Period since thin (months) ____

BRUSH INFORMATION

Dominant species blueberry, American holly
Average height (inches) 29
Average crown height (inches) 48
Ground space occupied (percent) 20

FUEL MODEL

Fire Behavior Fuel Model 9

REMARKS

DATA SHEET Residue descriptive code 4-LL-2-H

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	0.4	22.6	3
0.26-1.0	4.3	272.1	34
1.1-3.0	3.7	234.4	29
3 + Sound	2.7	168.4	21
3 + Rotten	1.6	99.3	13
Total	12.7	796.9	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre) ______

Average stems/acre cut ______

Average d.b.h. of stems cut (inches) ______

Stand age (years) 25

Cutting prescription Row Thin

Yarding method Hand

Slash treatment None

Period since cut or treatment (months) 12

OTHER MEASUREMENTS

Average fuel depth (inches) 4.7

Average duff depth (inches) 0.2

Average diameter of 3.1 inch sound (inches) 4.7

Average diameter of 3.1-inch rotten (inches) 4.4

Average d.b.h. of standing trees (inches) 8.0

Basal area / acre 110

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre 400

Stems remaining/acre 350

Basal area/acre before 180

Basal area/acre after 110

Average d.b.h.before (inches) 8.0

Average d.b.h.after (inches) 8.0

Thinning method Every third row

Slash treatment None

Period since thin (months) 12

BRUSH INFORMATION

Dominant species: poison ivy, red maple, Japanese honeysuckle, blackberry

Average height (inches) 24

Average crown height (inches) 60-72

Ground space occupied (percent) 80

FUEL MODEL

Fire Behavior Fuel Model 9

REMARKS

DATA SHEET Residue descriptive code 5-LL-1-P

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	0.9	59.1	4
0.26-1.0	3.6	228.7	13
1.1-3.0	6.2	390.9	23
3 + Sound	10.6	664.3	39
3 + Rotten	5.8	363.9	21
Total	27.2	1706.8	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre)

Average stems/acre cut

Average d.b.h. of stems cut (inches)

Stand age (years)

Cutting prescription

Yarding method

Slash treatment

Period since cut or treatment (months)

OTHER MEASUREMENTS

Average fuel depth (inches) 10.9

Average duff depth (inches) 1.2

Average diameter of 3.1 inch sound (inches) 5.3

Average diameter of 3.1-inch rotten (inches) 5.4

Average d.b.h. of standing trees (inches) 3.3

Basal area / acre 70

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre 6250

Stems remaining/acre 750

Basal area/acre before N/A

Basal area/acre after 65

Average d.b.h.before (inches) N/A

Average d.b.h.after (inches) 3.3

Thinning method N/A

Slash treatment None

Period since thin (months) 8

BRUSH INFORMATION

Dominant species: devils walking stick, blueberry, American holly, red maple

Average height (inches) 36

Average crown height (inches) 60

Ground space occupied (percent) 100

FUEL MODEL

Fire Behavior Fuel Model 12

REMARKS

DATA SHEET Residue descriptive code 6-LL-3-H

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume $(Ft^3/Acre)$	Percent
0-0.25	1.2	76.7	3
0.26-1.0	5.8	363.9	16
1.1-3.0	10.9	682.5	31
3 + Sound	16.1	1011.2	46
3 + Rotten	1.4	90.5	4
Total	35.4	2224.7	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre) 323.6
Average stems/acre cut 54
Average d.b.h. of stems cut (inches) 15.0
Stand age (years) 65
Cutting prescription Clearcut
Yarding method Skidder
Slash treatment None
Period since cut or treatment (months) 7

OTHER MEASUREMENTS

Average fuel depth (inches) 4.5
Average duff depth (inches) 3.5
Average diameter of 3.1 inch sound (inches) 5.2
Average diameter of 3.1-inch rotten (inches) 4.6
Average d.b.h. of standing trees (inches) 6.4
Basal area / acre 30

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre
Stems remaining/acre
Basal area/acre before
Basal area/acre after
Average d.b.h.before (inches)
Average d.b.h.after (inches)
Thinning method
Slash treatment
Period since thin (months)

BRUSH INFORMATION

Dominant species: maple, blackgum, American holly sprouts
Average height (inches) 24
Average crown height (inches) 28
Ground space occupied (percent) 10

FUEL MODEL

Fire Behavior Fuel Model 12

REMARKS

DATA SHEET Residue descriptive code 7-LL-3-H

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	0.2	12.6	1
0.26-1.0	1.1	69.1	2
1.1-3.0	5.5	348.2	14
3 + Sound	30.3	1902.9	74
3 + Rotten	3.6	224.4	9
Total	40.7	2557.1	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre) 351.0
Average stems/acre cut 77
Average d.b.h. of stems cut (inches) 14.0
Stand age (years) 65
Cutting prescription Clearcut
Yarding method Skidder
Slash treatment Prescribed burn
Period since cut or treatment (months) 24-36

OTHER MEASUREMENTS

Average fuel depth (inches) 3.1
Average duff depth (inches) 1.0
Average diameter of 3.1 inch sound (inches) 7.0
Average diameter of 3.1-inch rotten (inches) 7.2
Average d.b.h. of standing trees (inches) 8.1
Basal area / acre None

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre ______
Stems remaining/acre ______
Basal area/acre before ______
Basal area/acre after ______
Average d.b.h.before (inches) ______
Average d.b.h.after (inches) ______
Thinning method ______
Slash treatment ______
Period since thin (months) ______

BRUSH INFORMATION

Dominant species: Loblolly regeneration, sweet pepperbush, grass, red maple
Average height (inches) 36
Average crown height (inches) 72
Ground space occupied (percent) 100

FUEL MODEL

Fire Behavior Fuel Model 13

REMARKS

Harvested 4 years ago
Prescribe burned 4 years ago
Spot planted 3 years ago
Bushed 1 year ago

DATA SHEET Residue descriptive code 8-LL-3-N

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	0.3	19.5	1
0.26-1.0	1.1	69.1	3
1.1-3.0	1.9	120.7	4
3 + Sound	29.4	1847.6	67
3 + Rotten	11.0	691.3	25
Total	43.7	2748.1	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre) ________
Average stems/acre cut ________
Average d.b.h. of stems cut (inches) ________
Stand age (years) ________
Cutting prescription ________
Yarding method ________
Slash treatment ________
Period since cut or treatment (months) ________

OTHER MEASUREMENTS

Average fuel depth (inches) 2.5
Average duff depth (inches) 4.7
Average diameter of 3.1 inch sound (inches) 9.8
Average diameter of 3.1-inch rotten (inches) 6.6
Average d.b.h. of standing trees (inches) 12.5
Basal area / acre 90

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre ________
Stems remaining/acre ________
Basal area/acre before ________
Basal area/acre after ________
Average d.b.h.before (inches) ________
Average d.b.h.after (inches) ________
Thinning method ________
Slash treatment ________
Period since thin (months) ________

BRUSH INFORMATION

Dominant species poison ivy, greenbriar, blueberry, groundpine
Average height (inches) 30
Average crown height (inches) 72
Ground space occupied (percent) 60

FUEL MODEL

Fire Behavior Fuel Model 10

REMARKS

50% of this loblolly pine stand was killed by the Southern Pine Beetle 10 years ago.

DATA SHEET Residue descriptive code 9-LL-3-H

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	1.4	88.6	3
0.26-1.0	3.2	198.6	7
1.1-3.0	6.1	384.0	13
3 + Sound	31.2	1962.6	67
3 + Rotten	4.7	294.1	10
Total	46.6	2928.5	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre) 431.0
Average stems/acre cut 76
Average d.b.h. of stems cut (inches) 14.0
Stand age (years) 57
Cutting prescription Clearcut
Yarding method Skidder
Slash treatment Chopped
Period since cut or treatment (months) 2

OTHER MEASUREMENTS

Average fuel depth (inches) 6.2
Average duff depth (inches) 1.7
Average diameter of 3.1 inch sound (inches) 5.3
Average diameter of 3.1-inch rotten (inches) 9.4
Average d.b.h. of standing trees (inches) N/A
Basal area / acre None

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre
Stems remaining/acre
Basal area/acre before
Basal area/acre after
Average d.b.h.before (inches)
Average d.b.h.after (inches)
Thinning method
Slash treatment
Period since thin (months)

BRUSH INFORMATION

Dominant species American holly, red maple sprouts
Average height (inches) 12
Average crown height (inches) 30
Ground space occupied (percent) 5

FUEL MODEL

Fire Behavior Fuel Model 13

REMARKS

Harvested 8 months ago.

Chopped 2 months ago.

DATA SHEET Residue descriptive code 1-WP-3-N

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	0.2	14.7	4
0.26-1.0	1.0	90.7	24
1.1-3.0	1.3	115.4	30
3 + Sound	0.8	75.1	19
3 + Rotten	1.0	89.7	23
Total	4.2	385.5	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre) ________

Average stems/acre cut ________

Average d.b.h. of stems cut (inches) ________

Stand age (years) ________

Cutting prescription ________

Yarding method ________

Slash treatment ________

Period since cut or treatment (months) ________

OTHER MEASUREMENTS

Average fuel depth (inches) 8.0

Average duff depth (inches) 3.4

Average diameter of 3.1 inch sound (inches) 3.9

Average diameter of 3.1-inch rotten (inches) 4.6

Average d.b.h. of standing trees (inches) 12.8

Basal area / acre 120

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre ________

Stems remaining/acre ________

Basal area/acre before ________

Basal area/acre after ________

Average d.b.h.before (inches) ________

Average d.b.h.after (inches) ________

Thinning method ________

Slash treatment ________

Period since thin (months) ________

BRUSH INFORMATION

Dominant species blueberry, white pine regeneration

Average height (inches) 22

Average crown height (inches) 40

Ground space occupied (percent) 80

FUEL MODEL

Fire Behavior Fuel Model 5

REMARKS

DATA SHEET Residue descriptive code 2-WP-2-P

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	0.2	13.7	2
0.26-1.0	1.2	112.6	20
1.1-3.0	2.2	201.5	36
3 + Sound	2.2	201.5	35
3 + Rotten	0.4	38.5	7
Total	6.2	567.7	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre)	
Average stems/acre cut	
Average d.b.h. of stems cut (inches)	
Stand age (years)	
Cutting prescription	
Yarding method	
Slash treatment	
Period since cut or treatment (months)	

OTHER MEASUREMENTS

Average fuel depth (inches)	11.2
Average duff depth (inches)	3.6
Average diameter of 3.1 inch sound (inches)	4.2
Average diameter of 3.1-inch rotten (inches)	3.9
Average d.b.h. of standing trees (inches)	5.8
Basal area / acre	100

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre	None
Stems remaining/acre	300
Basal area/acre before	140
Basal area/acre after	100
Average d.b.h.before (inches)	N/A
Average d.b.h.after (inches)	5.8
Thinning method	Chemical Frill
Slash treatment	N/A
Period since thin (months)	24

BRUSH INFORMATION

Dominant species	blueberry, oak sprouts
Average height (inches)	14
Average crown height (inches)	18
Ground space occupied (percent)	15

FUEL MODEL

Fire Behavior Fuel Model	8

REMARKS

Stand was chemically treated (frilled) approximately 2 years ago.

DATA SHEET Residue descriptive code 3-WP-3-N

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	0.1	9.2	1
0.26-1.0	1.6	146.5	19
1.1-3.0	2.3	210.6	28
3 + Sound	3.4	311.3	40
3 + Rotten	1.0	91.6	12
Total	8.5	769.2	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre)
Average stems/acre cut
Average d.b.h. of stems cut (inches)
Stand age (years)
Cutting prescription
Yarding method
Slash treatment
Period since cut or treatment (months)

OTHER MEASUREMENTS

Average fuel depth (inches) 3.6
Average duff depth (inches) 1.0
Average diameter of 3.1 inch sound (inches) 4.6
Average diameter of 3.1-inch rotten (inches) 4.0
Average d.b.h. of standing trees (inches) 12.2
Basal area / acre 160

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre
Stems remaining/acre
Basal area/acre before
Basal area/acre after
Average d.b.h.before (inches)
Average d.b.h.after (inches)
Thinning method
Slash treatment
Period since thin (months)

BRUSH INFORMATION

Dominant species spicebush

Average height (inches) 24
Average crown height (inches) 78
Ground space occupied (percent) 15 (patchy)

FUEL MODEL

Fire Behavior Fuel Model 10

REMARKS

DATA SHEET Residue descriptive code 4-WP-3-H

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	0.3	25.6	3
0.26-1.0	1.5	132.8	16
1.1-3.0	3.9	359.9	44
3 + Sound	3.3	298.5	36
3 + Rotten	0.1	10.1	1
Total	9.0	826.9	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre) N/A
Average stems/acre cut 120
Average d.b.h. of stems cut (inches) 13.5
Stand age (years) 70
Cutting prescription Shelterwood Cut
Yarding method Skidder
Slash treatment None
Period since cut or treatment (months) 6

OTHER MEASUREMENTS

Average fuel depth (inches) 10.4
Average duff depth (inches) 3.4
Average diameter of 3.1 inch sound (inches) 5.6
Average diameter of 3.1-inch rotten (inches) 3.4
Average d.b.h. of standing trees (inches) 13.4
Basal area / acre 70

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre ____
Stems remaining/acre ____
Basal area/acre before ____
Basal area/acre after ____
Average d.b.h.before (inches) ____
Average d.b.h.after (inches) ____
Thinning method ____
Slash treatment ____
Period since thin (months) ____

BRUSH INFORMATION

Dominant species blueberry

Average height (inches) 30
Average crown height (inches) 30
Ground space occupied (percent) 75

FUEL MODEL

Fire Behavior Fuel Model 11

REMARKS

DATA SHEET Residue descriptive code 5-WP-3-H

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	0.6	53.1	3
0.26-1.0	2.0	185.9	12
1.1-3.0	7.9	719.8	45
3 + Sound	6.7	617.2	39
3 + Rotten	0.2	16.2	1
Total	17.4	1592.4	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre)	N/A
Average stems/acre cut	120
Average d.b.h. of stems cut (inches)	13.5
Stand age (years)	70
Cutting prescription	Select cut
Yarding method	Skidder
Slash treatment	None
Period since cut or treatment (months)	6

OTHER MEASUREMENTS

Average fuel depth (inches)	16.6
Average duff depth (inches)	3.8
Average diameter of 3.1 inch sound (inches)	4.3
Average diameter of 3.1-inch rotten (inches)	3.2
Average d.b.h. of standing trees (inches)	10.2
Basal area / acre	40

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre	
Stems remaining/acre	
Basal area/acre before	
Basal area/acre after	
Average d.b.h.before (inches)	
Average d.b.h.after (inches)	
Thinning method	
Slash treatment	
Period since thin (months)	

BRUSH INFORMATION

Dominant species blueberry

Average height (inches)	30
Average crown height (inches)	30
Ground space occupied (percent)	45

FUEL MODEL

Fire Behavior Fuel Model 12

REMARKS

DATA SHEET Residue descriptive code 6-WP-2-H

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	0.3	23.8	1
0.26-1.0	2.4	218.9	12
1.1-3.0	7.6	697.8	38
3 + Sound	9.6	876.3	48
3 + Rotten	0.2	15.6	1
Total	20.0	1832.3	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre)	N/A
Average stems/acre cut	120
Average d.b.h. of stems cut (inches)	9.7
Stand age (years)	60
Cutting prescription	Diameter Cut
Yarding method	Skidder
Slash treatment	None
Period since cut or treatment (months)	27

OTHER MEASUREMENTS

Average fuel depth (inches)	6.3
Average duff depth (inches)	3.3
Average diameter of 3.1 inch sound (inches)	5.0
Average diameter of 3.1-inch rotten (inches)	4.3
Average d.b.h. of standing trees (inches)	8.6
Basal area / acre	30

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre	
Stems remaining/acre	
Basal area/acre before	
Basal area/acre after	
Average d.b.h.before (inches)	
Average d.b.h.after (inches)	
Thinning method	
Slash treatment	
Period since thin (months)	

BRUSH INFORMATION

Dominant species	blueberry, grass, fern, oak sprouts
Average height (inches)	13
Average crown height (inches)	24
Ground space occupied (percent)	80

FUEL MODEL 11

Fire Behavior Fuel Model ____

REMARKS

Cut 3 years ago.
Burned by wildfire 2 years ago.
Heavy mortality in residual stand.

DATA SHEET Residue descriptive code 7-WP-3-N

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	0.1	9.2	>1
0.26-1.0	0.9	82.4	3
1.1-3.0	4.4	402.9	15
3 + Sound	23.6	2161.1	78
3 + Rotten	1.3	119.0	4
Total	30.3	2774.6	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre)
Average stems/acre cut
Average d.b.h. of stems cut (inches)
Stand age (years)
Cutting prescription
Yarding method
Slash treatment
Period since cut or treatment (months)

OTHER MEASUREMENTS

Average fuel depth (inches) 15.3
Average duff depth (inches) 1.9
Average diameter of 3.1 inch sound (inches) 6.7
Average diameter of 3.1-inch rotten (inches) 4.1
Average d.b.h. of standing trees (inches) 11.6
Basal area / acre 100

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre
Stems remaining/acre
Basal area/acre before
Basal area/acre after
Average d.b.h.before (inches)
Average d.b.h.after (inches)
Thinning method
Slash treatment
Period since thin (months)

BRUSH INFORMATION

Dominant species spicebush, fern, white pine regeneration
Average height (inches) 72
Average crown height (inches) 120
Ground space occupied (percent) 30

FUEL MODEL

Fire Behavior Fuel Model 10

REMARKS

Blowdown occurred 12 years ago.

DATA SHEET Residue descriptive code 1-PP-1-N

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	3.2	229.3	84
0.26-1.0	0.3	19.9	7
1.1-3.0	0.1	7.8	3
3 + Sound	0.1	7.8	3
3 + Rotten	0.1	8.6	3
Total	3.8	273.5	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre) ______
Average stems/acre cut ______
Average d.b.h. of stems cut (inches) ______
Stand age (years) ______
Cutting prescription ______
Yarding method ______
Slash treatment ______
Period since cut or treatment (months) ______

OTHER MEASUREMENTS

Average fuel depth (inches) 2.0
Average duff depth (inches) 0.6
Average diameter of 3.1 inch sound (inches) 3.1
Average diameter of 3.1-inch rotten (inches) 3.2
Average d.b.h. of standing trees (inches) 3.4
Basal area / acre 50

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre ______
Stems remaining/acre ______
Basal area/acre before ______
Basal area/acre after ______
Average d.b.h.before (inches) ______
Average d.b.h.after (inches) ______
Thinning method ______
Slash treatment ______
Period since thin (months) ______

BRUSH INFORMATION

Dominant species blueberry, bracken fern, scrub oak
Average height (inches) 30
Average crown height (inches) 66
Ground space occupied (percent) 65

FUEL MODEL

Fire Behavior Fuel Model 7

REMARKS

Prescribed burn one year ago.

Dead scrub oak visable in underbrush is 54" high.

DATA SHEET Residue descriptive code 2-PP-2-N

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	2.6	187.3	69
0.26-1.0	0.2	14.2	5
1.1-3.0	0.6	40.6	15
3 + Sound	0.3	22.1	8
3 + Rotten	0.1	8.5	3
Total	3.8	272.8	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre) ______

Average stems/acre cut ______

Average d.b.h. of stems cut (inches) ______

Stand age (years) ______

Cutting prescription ______

Yarding method ______

Slash treatment ______

Period since cut or treatment (months) ______

OTHER MEASUREMENTS

Average fuel depth (inches) 2.6

Average duff depth (inches) 1.4

Average diameter of 3.1 inch sound (inches) 3.7

Average diameter of 3.1-inch rotten (inches) 3.2

Average d.b.h. of standing trees (inches) 6.9

Basal area / acre 80

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre ______

Stems remaining/acre ______

Basal area/acre before ______

Basal area/acre after ______

Average d.b.h.before (inches) ______

Average d.b.h.after (inches) ______

Thinning method ______

Slash treatment ______

Period since thin (months) ______

BRUSH INFORMATION

Dominant species blueberry, scrub oak

Average height (inches) 30-84

Average crown height (inches) 94

Ground space occupied (percent) 80

FUEL MODEL

Fire Behavior Fuel Model 7

REMARKS

DATA SHEET Residue descriptive code 3-PP-1-N

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	3.7	264.9	61
0.26-1.0	0.2	12.8	3
1.1-3.0	0.6	40.6	9
3 + Sound	-	-	-
3 + Rotten	1.6	115.4	27
Total	6.1	433.7	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre) ______
Average stems/acre cut ______
Average d.b.h. of stems cut (inches) ______
Stand age (years) ______
Cutting prescription ______
Yarding method ______
Slash treatment ______
Period since cut or treatment (months) ______

OTHER MEASUREMENTS

Average fuel depth (inches) 1.4
Average duff depth (inches) 0.5
Average diameter of 3.1 inch sound (inches) -
Average diameter of 3.1-inch rotten (inches) 4.7
Average d.b.h. of standing trees (inches) 3.1
Basal area / acre 40

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre ______
Stems remaining/acre ______
Basal area/acre before ______
Basal area/acre after ______
Average d.b.h.before (inches) ______
Average d.b.h.after (inches) ______
Thinning method ______
Slash treatment ______
Period since thin (months) ______

BRUSH INFORMATION

Dominant species blueberry, scrub and blackjack oak
Average height (inches) 24
Average crown height (inches) 24
Ground space occupied (percent) 90

FUEL MODEL

Fire Behavior Fuel Model 4

REMARKS

Burned by wildfire:

10 years ago
35 years ago
50 years ago

DATA SHEET Residue descriptive code 4-PP-1-N

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	3.2	227.9	50
0.26-1.0	0.4	30.6	7
1.1-3.0	1.3	89.0	20
3 + Sound	1.3	91.9	21
3 + Rotten	0.1	7.8	2
Total	6.3	447.3	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre) ______
Average stems/acre cut ______
Average d.b.h. of stems cut (inches) ______
Stand age (years) ______
Cutting prescription ______
Yarding method ______
Slash treatment ______
Period since cut or treatment (months) ______

OTHER MEASUREMENTS

Average fuel depth (inches) 4.3
Average duff depth (inches) 3.6
Average diameter of 3.1 inch sound (inches) 3.5
Average diameter of 3.1-inch rotten (inches) 3.0
Average d.b.h. of standing trees (inches) 4.7
Basal area / acre 80

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre ______
Stems remaining/acre ______
Basal area/acre before ______
Basal area/acre after ______
Average d.b.h.before (inches) ______
Average d.b.h.after (inches) ______
Thinning method ______
Slash treatment ______
Period since thin (months) ______

BRUSH INFORMATION

Dominant species highbush blueberry, huckleberry, sheep laurel
Average height (inches) 56-90
Average crown height (inches) 120
Ground space occupied (percent) 95

FUEL MODEL

Fire Behavior Fuel Model 6

REMARKS

DATA SHEET Residue descriptive code 5-PP-2-N

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	3.1	217.9	44
0.26-1.0	0.4	29.9	6
1.1-3.0	1.4	96.9	20
3 + Sound	2.1	147.4	30
3 + Rotten	-	-	-
Total	6.9	492.2	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre) ____
Average stems/acre cut ____
Average d.b.h. of stems cut (inches) ____
Stand age (years) ____
Cutting prescription ____
Yarding method ____
Slash treatment ____
Period since cut or treatment (months) ____

OTHER MEASUREMENTS

Average fuel depth (inches) 2.3
Average duff depth (inches) 0.7
Average diameter of 3.1 inch sound (inches) 4.1
Average diameter of 3.1-inch rotten (inches) -
Average d.b.h. of standing trees (inches) 7.0
Basal area / acre 0

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre ____
Stems remaining/acre ____
Basal area/acre before ____
Basal area/acre after ____
Average d.b.h.before (inches) ____
Average d.b.h.after (inches) ____
Thinning method ____
Slash treatment ____
Period since thin (months) ____

BRUSH INFORMATION

Dominant species scrub oak, pitch pine regeneration, huckleberry

Average height (inches) 24-48
Average crown height (inches) 70
Ground space occupied (percent) 100

FUEL MODEL

Fire Behavior Fuel Model 6

REMARKS

Burned by wildfire:

5 years ago
50 years ago

DATA SHEET Residue descriptive code 6-PP-2-N

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume $(Ft^3/Acre)$	Percent
0-0.25	4.2	299.1	56
0.26-1.0	1.3	92.6	17
1.1-3.0	1.8	128.2	24
3 + Sound	---	---	---
3 + Rotten	0.2	14.2	3
Total	7.5	534.1	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre)

Average stems/acre cut

Average d.b.h. of stems cut (inches)

Stand age (years)

Cutting prescription

Yarding method

Slash treatment

Period since cut or treatment (months)

OTHER MEASUREMENTS

Average fuel depth (inches) 2.5

Average duff depth (inches) 3.5

Average diameter of 3.1 inch sound (inches) ---

Average diameter of 3.1-inch rotten (inches) 3.8

Average d.b.h. of standing trees (inches) 8.3

Basal area / acre 100

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre

Stems remaining/acre

Basal area/acre before

Basal area/acre after

Average d.b.h.before (inches)

Average d.b.h.after (inches)

Thinning method

Slash treatment

Period since thin (months)

BRUSH INFORMATION

Dominant species: huckleberry, scrub oak, chestnut oak, scarlet oak

Average height (inches) 8

Average crown height (inches) 24

Ground space occupied (percent) 30

FUEL MODEL

Fire Behavior Fuel Model 9

REMARKS

DATA SHEET Residue descriptive code 7-PP-3-H

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	10.0	712.2	47
0.26-1.0	2.8	199.4	13
1.1-3.0	6.3	448.7	29
3 + Sound	2.1	149.6	10
3 + Rotten	0.2	14.2	1
Total	21.4	1524.2	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre) 2145
Average stems/acre cut 340
Average d.b.h. of stems cut (inches) 8.0
Stand age (years) N/A
Cutting prescription Clearcut
Yarding method Skidder
Slash treatment None
Period since cut or treatment (months) 9

OTHER MEASUREMENTS

Average fuel depth (inches) 3.2
Average duff depth (inches) 2.4
Average diameter of 3.1 inch sound (inches) 3.4
Average diameter of 3.1-inch rotten (inches) 4.0
Average d.b.h. of standing trees (inches) ---
Basal area / acre ---

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre ____
Stems remaining/acre ____
Basal area/acre before ____
Basal area/acre after ____
Average d.b.h.before (inches) ____
Average d.b.h.after (inches) ____
Thinning method ____
Slash treatment ____
Period since thin (months) ____

BRUSH INFORMATION

Dominant species: Scarlet oak, blueberry, blackgum, chestnut oak, sassafras, red maple

Average height (inches) 18
Average crown height (inches) 42
Ground space occupied (percent) 70

FUEL MODEL

Fire Behavior Fuel Model 12

REMARKS

DATA SHEET Residue descriptive code 1-VP-2-N

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume $(Ft^3/Acre)$	Percent
0-0.25	3.5	233.7	24
0.26-1.0	0.8	53.4	5
1.1-3.0	2.3	153.6	16
3 + Sound	5.5	367.2	37
3 + Rotten	2.6	173.6	18
Total	14.7	981.5	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre) ____
Average stems/acre cut ____
Average d.b.h. of stems cut (inches) ____
Stand age (years) ____
Cutting prescription ____
Yarding method ____
Slash treatment ____
Period since cut or treatment (months) ____

OTHER MEASUREMENTS

Average fuel depth (inches) 2.8
Average duff depth (inches) 2.3
Average diameter of 3.1 inch sound (inches) 4.1
Average diameter of 3.1-inch rotten (inches) 4.2
Average d.b.h. of standing trees (inches) 10.1
Basal area / acre 90

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre ____
Stems remaining/acre ____
Basal area/acre before ____
Basal area/acre after ____
Average d.b.h.before (inches) ____
Average d.b.h.after (inches) ____
Thinning method ____
Slash treatment ____
Period since thin (months) ____

BRUSH INFORMATION

Dominant species: American chestnut, bayberry, sweetbay magnolia

Average height (inches) 42
Average crown height (inches) 157
Ground space occupied (percent) 60

FUEL MODEL

Fire Behavior Fuel Model 9

REMARKS

DATA SHEET Residue descriptive code 2-VP-2-N

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	4.8	320.5	32
0.26-1.0	1.6	86.8	11
1.1-3.0	2.8	187.0	19
3 + Sound	2.1	140.2	14
3 + Rotten	3.6	240.4	24
Total	15.0	1001.6	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre) ____

Average stems/acre cut ____

Average d.b.h. of stems cut (inches) ____

Stand age (years) ____

Cutting prescription ____

Yarding method ____

Slash treatment ____

Period since cut or treatment (months) ____

OTHER MEASUREMENTS

Average fuel depth (inches) 3.3

Average duff depth (inches) 3.7

Average diameter of 3.1 inch sound (inches) 4.2

Average diameter of 3.1-inch rotten (inches) 5.1

Average d.b.h. of standing trees (inches) 7.7

Basal area / acre 110

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre ____

Stems remaining/acre ____

Basal area/acre before ____

Basal area/acre after ____

Average d.b.h.before (inches) ____

Average d.b.h.after (inches) ____

Thinning method ____

Slash treatment ____

Period since thin (months) ____

BRUSH INFORMATION

Dominant species: blueberry, viburnum, greenbriar, American holly

Average height (inches) 32

Average crown height (inches) 52

Ground space occupied (percent) 80

FUEL MODEL

Fire Behavior Fuel Model 9

REMARKS

Stand appears to be breaking up naturally.

DATA SHEET Residue descriptive code 3-VP-3-N

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	3.8	283.2	21
0.26-1.0	1.1	83.5	6
1.1-3.0	1.9	143.9	10
3 + Sound	5.2	386.8	29
3 + Rotten	6.1	452.4	34
Total	18.1	1349.8	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre)
Average stems/acre cut
Average d.b.h. of stems cut (inches)
Stand age (years)
Cutting prescription
Yarding method
Slash treatment
Period since cut or treatment (months)

OTHER MEASUREMENTS

Average fuel depth (inches) 3.0
Average duff depth (inches) 2.0
Average diameter of 3.1 inch sound (inches) 6.1
Average diameter of 3.1-inch rotten (inches) 5.0
Average d.b.h. of standing trees (inches) 11.8
Basal area / acre 60

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre
Stems remaining/acre
Basal area/acre before
Basal area/acre after
Average d.b.h.before (inches)
Average d.b.h.after (inches)
Thinning method
Slash treatment
Period since thin (months)

BRUSH INFORMATION

Dominant species American holly, greenbriar, blueberry, flowering dogwood, sassafras.

Average height (inches) 60
Average crown height (inches) 144
Ground space occupied (percent) 25

FUEL MODEL

Fire Behavior Fuel Model 10

REMARKS

DATA SHEET Residue descriptive code 4-VP-2-N

LOADING

Size Class (inches)	Weight (Tons/Acre)	Volume (Ft^3/Acre)	Percent
0-0.25	7.7	514.1	37
0.26-1.0	1.9	126.9	9
1.1-3.0	5.9	393.9	28
3 + Sound	0.2	13.4	1
3 + Rotten	5.2	347.2	25
Total	21.1	1408.9	100

HARVEST INFORMATION

Gross volume cruised (mbf/acre)	
Average stems/acre cut	
Average d.b.h. of stems cut (inches)	
Stand age (years)	
Cutting prescription	
Yarding method	
Slash treatment	
Period since cut or treatment (months)	

OTHER MEASUREMENTS

Average fuel depth (inches)	3.3
Average duff depth (inches)	3.5
Average diameter of 3.1 inch sound (inches)	3.1
Average diameter of 3.1-inch rotten (inches)	5.0
Average d.b.h. of standing trees (inches)	5.6
Basal area / acre	150

PRECOMMERCIAL THINNING INFORMATION

Stems cut/acre	
Stems remaining/acre	
Basal area/acre before	
Basal area/acre after	
Average d.b.h.before (inches)	
Average d.b.h.after (inches)	
Thinning method	
Slash treatment	
Period since thin (months)	

BRUSH INFORMATION

Dominant species: blueberry, red maple greenbriar, American holly

Average height (inches)	36
Average crown height (inches)	40
Ground space occupied (percent)	40

FUEL MODEL

Fire Behavior Fuel Model	10

REMARKS